Solution 16.1

AARHUS LIMITED
EXTRACT FROM THE STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED 30 JUNE

	20Y2	20X5	20X4
	C	C	C
Profit from operating activities	xxxx	xxxx	xxxx
Finance cost	18 531	18 887	18 920

AARHUS LIMITED
EXTRACT FROM THE STATEMENT OF FINANCIAL POSITION
AS AT 30 JUNE

	Notes	20Y2	20X5	20X4
		C	C	C
Non-current liabilities	8		164 207	164 520
Current liabilities	8	160 746		

AARHUS LIMITED
EXTRACT FROM THE NOTES TO THE FINANCIAL STATEMENTS

8. Debentures	Non-current liabilities		Current liabilities
	20Y2	20X5	20X4
Unsecured			
80 000 C2 debentures	160 746	164 207	164 520
	160 746	164 207	164 520

The debentures bear interest at 12% and are redeemable at par on 30 June 20Y3. The effective interest rate is 11,48%.

Workings

Date	Nominal interest	Effective interest	Liability Balance
	(160 000 x 0.12)	(11.48029%)	
1/7/X3			164 800
30/6/X4	19 200	18 920	164 520
30/6/X5	19 200	18 887	164 207
30/6/X6	19 200	18 851	163 858
30/6/X7	19 200	18 811	163 470
30/6/X8	19 200	18 767	163 036
30/6/X9	19 200	18 717	162 554
30/6/Y0	19 200	18 662	162 015
30/6/Y1	19 200	18 600	161 415
30/6/Y2	19 200	18 531	160 746
30/6/Y3	19 200	18 454	160 000

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Solution 16.2

a)

BERGEN LIMITED
JOURNAL

Date	Description	Debit	Credit
20X1			
October 1	Bank	95 000	
	Debenture liability		95 000
December 31	Interest expense (W1)	3 095	
	Debenture liability		3 095
	Debenture liability	2 500	
	Interest accrued		2 500
	Profit and loss	3 095	
	Interest expense		3 095
20X2			
March 31	Interest expense (W1)	3 095	
	Interest accrued	2 500	
	Bank		5 000
	Debenture liability		595
September 30	Interest expense (W1)	6 268	
	Bank		5 000
	Debenture liability		1 268
December 31	Interest expense (W1)	3 175	
	Debenture liability		3 175
	Debenture liability	2 500	
	Interest accrued		2 500
	Profit and loss	12 538	
	Interest expense		12 538

Workings

W1: Amortisation table

Date	Interest (10%)	Effective Interest(13,032%)	Liability
1/10/X1			95 000
31/12/X1	(2 500)	3 095	95 595
31/3/X2	(2 500)	3 095	96 190
30/9/X2	(5 000)	6 268	97 458
31/12/X2	(2 500)	3 175	98 133

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Solution 16.2 continued …

b)

BERGEN LIMITED **EXTRACT FROM STATEMENT OF COMPREHENSIVE INCOME** **FOR THE YEAR ENDED 31 DECEMBER 20X2**	
Finance costs	**C**
Interest expense	^12 538

^ (3 095 + 6 268 + 3 175)

BERGEN LIMITED **EXTRACT FROM STATEMENT OF FINANCIAL POSITION** **AT 31 DECEMBER 20X2**		
Non-current liabilities	**Note**	**C**
C1 Debentures	9	98 133

EXTRACTS FROM THE NOTES TO THE FINANCIAL STATEMENTS	
	C
9. Non-current liabilities	
Unsecured	
100 000 C1 debentures	98 133
	98 133

The debentures bear interest of 10% per annum payable on 31 March and 30 September each year and are redeemable at a premium of 7% on 30 September 20X5. The effective interest rate is 13.03% per annum.

Solution 16.3

(a) Amortisation table

Year	Effective interest cost (15%)	Interest paid (12%)	Liability balance
			100 000
20X1	15 000	12 000	103 000
20X2	15 450	12 000	106 450
20X3	15 968	12 000	110 418
20X4	16 563	12 000	114 981
20X5	17 247	12 000	120 228
20X6	18 034	12 000	126 262

(b) Journal entries

ELK LIMITED
JOURNAL

Date	Description	Debit	Credit
20X1	Bank	100 000	
Jan 1	Debenture liability		100 000
Dec 31	Interest expense	12 000	
	Bank		12 000
	Interest expense	3 000	
	Debenture liability		3 000
	Profit and loss	15 000	
	Interest expense		15 000
20X2	Interest expense	12 000	
Dec 31	Bank		12 000
	Interest expense	3 450	
	Debenture liability		3 450
	Profit and loss	15 450	
	Interest expense		15 450
20X3	Interest expense	12 000	
Dec 31	Bank		12 000
	Interest expense	3 968	
	Debenture liability		3 968
	Profit and loss	15 968	
	Interest expense		15 968

Solution 16.3 continued . .

(c) Extract from the financial statements

ELK LIMITED
STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 20X3

	C
Non-current liabilities	
Debentures	110 418

ELK LIMITED
STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED 31 DECEMBER 20X3

	C
Finance costs	15 968

NOTES TO THE FINANCIAL STATEMENTS

	C
11. Non-current liabilities	
100 000 12% p.a. debentures	110 418
	110 418

The debentures are repayable on 31 December 20X6 at a premium of 26.262%. They are secured over the land and buildings. The effective interest rate is 15% per annum.

Solution 16.4

a)

IFRS 7 lists the risks associated with financial instruments as follows:

- Market risk, which is made up of three distinct risks:
  - Currency risk
  - Interest rate risk; and
  - Other price risk
- Credit risk
- Liquidity risk

b)

Blues Ltd is exposed to almost all of the abovementioned financial risks. Each of the risks to which it is exposed is discussed below.

Market Risk:

- *Currency risk:*

Currency risk is defined as: the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

Since Blues Limited buys its machinery and raw materials from Country Limited, a company based in the USA, it has a debt that is dollar denominated. Since Blues Limited is based in South Africa, this means that Blues Limited is exposed to the risk that the debt payable increases due to changes in the currency exchange rates. The exchange rate on the date that goods are purchased (transaction date) will differ from the rate available on the date that the creditor is paid (settlement date).

Although Blues Limited sells to both local and foreign customers, the trial balance indicates that a significant portion of the sales are constituted by sales to customers based in London (Great Britain). If the sales are denominated in Pounds (i.e. the foreign currency as opposed to the local currency of Rands), the amounts receivable from the sales will be variable based on the exchange rate ruling on the date of settlement. The measurement of the sales income will be dependant on the exchange rate ruling when the sale is made (transaction date) and the amount of cash that will be received will depend on the exchange rate ruling on the date the debtor settles the debt (settlement date).

- *Interest rate risk:*

Interest rate risk is defined as: the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

Blues Limited has fixed rate debentures and is thus exposed to interest rate risk (e.g. if the market rates decrease, Blues Limited will unfortunately continue to pay at the high fixed rate and the fair value thereof will increase). Since the loan is at a variable interest rate, it is not exposed to interest rate risk (the fair value will move with the market rate changes).

Solution 16.4 continued …

b) continued …

- *Other price risk:*

Other price risk is defined as the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate and currency risk). E.g. an increase in the share price of shares to be purchased: This risk is not applicable to Blues Limited.

Credit risk:

Credit risk is defined as the risk that one party to a financial instrument will cause a finacnial loss for the other party by failing to discharge an obligation.

Blues Limited is exposed to credit risk as it offers 60 days credit to all customers worldwide. These debtors may be unable to pay Blues within the 60 days, or indefinitely, and Blues is therefore exposed to credit risk.

Liquidity risk:

Liquidity risk is defined as the risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities.

Blues Limited is exposed to this risk as they have:

- A substantial loan with variable interest rates, where an increase in the interest rate may make it difficult to repay interest and capital
- A substantial trade payable, which is compounded by the fact that it is denominated in a foreign currency, which means that the amount owing could increase with a change in the exchange rate.

Blues Limited offers credit to all of its customers and will therefore have an irregular cash flow, with cash from a sale being delayed for up to 60 days. This will obviously compound its liquidity risk.

Solution 16.4 continued …

c)

Blues Limited should be able to mitigate these risks as follows:

How Blues Limited may limit its currency risk
The exposure to fluctuating exchange rates may be reduced through:
- forward exchange contracts,
- currency swaps,
- futures for either buying or selling in different currencies, or
- internal matching, whereby the value of Blues Limited's exports substantially equal the value of its imports thus offsetting its risks.

How Blues Limited may limit its interest rate risk
The exposure to fluctuating interest rates may be reduced through:
- internal matching of interest rates (e.g. lending at variable rates as well as borrowing at variable rates),
- interest rate swaps,
- *options* to swap interest rates, and
- forward rate agreements.

How Blues Limited may limit its credit risk
The exposure to credit risk can be reduced by:
- limiting the value of credit given to customers;
- implementing stricter collection policies (e.g. sending frequent statements and reminders to customers),
- ensuring the quality of debtors by performing a credit review before granting credit to customers, (thus reducing potential bad debts levels).

How Blues Limited may limit its liquidity risk
Its exposure to liquidity risk can be reduced by:
- reducing current assets and converting them to cash, for example:
  - encouraging payment on transaction date (increase cash sales);
  - implementing credit terms that will result in the debtors settling as soon as possible (high interest on late payments), or
  - reducing inventory levels (by increasing sales) or purchasing and manufacturing inventory on a 'demand basis'.

This will increase available cash resources that can be used to remove debts and release money for other investments that may currently be tied up in working capital.

Comment: *This question offers an in-depth discussion of the financial risks outlined in IFRS 7 and the real world responses to mitigate these risks.*

Solution 16.5

Effective interest rate table - debentures

	Interest 19.99274% Debit/ (Credit)	Bank Debit/ (Credit)	Debenture liability Debit/ (Credit)
2 Jan 20X5		4 000 000	(4 000 000)
31 Dec 20X5	799 709	(500 000)	(4 299 709)
31 Dec 20X6	859 630	(500 000)	(4 659 339)
31 Dec 20X7	931 529	(500 000)	(5 090 868)
31 Dec 20X8	1 017 804	(500 000)	(5 608 672)
31 Dec 20X9	1 121 327	(500 000)	(6 230 000)
		(6 230 000)	0
	4 730 000	4 730 000	

TINKERBELL LIMITED
EXTRACTS FROM THE STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED 31 DECEMBER 20X9

	20X9	20X8	20X7	20X6	20X5
	C	C	C	C	C
Profit before finance costs	xxx	xxx	xxx	xxx	xxx
Finance costs	1 121 327	1 017 804	931 529	859 630	799 709
Profit before tax	xxx	xxx	xxx	xxx	xxx

Comment:

This is a basic question illustrating the issue of a financial liability and the use of the effective interest rate method to discount the future cash flow (premium) to the present value of the debentures.

Notice how the debenture liability is increased by the interest (effective rate) and reduced by actual payments based on the coupon rate (10%), until at maturity, it is the same value as the repayment period.

Solution 16.6

In accordance with IAS 39, the directors correctly classified the debentures as a non-current interest-bearing liability. Unfortunately, however, they incorrectly measured both the liability balance and the finance costs. IAS 39 requires that the finance costs (interest, discounts and premium) and the financial liability be measured using the effective interest rate method.

Backstab Limited calculated the finance costs using the nominal rate of 12% on the face value of the debentures instead of the effective interest rate method and has therefore inappropriately accounted for the compulsorily redeemable debentures in the following respects:

- The cost of the discount on the issue as well as the cost of the premium on the future redemption has been ignored in the measurement of the finance costs. The finance costs have therefore been understated for the year ended 31 December 20X6 by C362 748 (842 748 – 480 000)
- Consequently, the measurement of the liability has been understated by C362 748 [(3 200 000 + 842 748) – (3 200 000 + 480 000)].

The journal entries processed would have to be corrected as follows (the third journal entry below assumes that the deferred tax journal entry will have also already been processed by Backstab Limited):

31 December 20X6	**Debit**	**Credit**
Interest payable	480 000	
Finance costs – debenture interest		480 000
Reversal of the accrual of interest on debentures		
Finance costs – debenture interest	842 748	
Debenture liability *W1*		842 748
Accrual of interest on debentures		

A further journal would also be processed for the payment of the actual interest:

31 December 20X6	**Debit**	**Credit**
Debenture liability	480 000	
Bank		480 000
Actual payment of interest on debentures		

W1: Effective interest rate table - debentures

	Interest 26.33586%	Bank	Debenture liability
1 Jan 20X6		3 200 000	(3 200 000)
31 Dec 20X6	842 748	(480 000)	(3 562 748)
31 Dec 20X7	938 280	(480 000)	(4 021 028)
31 Dec 20X8	1 058 972	(480 000)	(4 600 000)
1 Jan 20X9			(4 600 000)
		(4 600 000)	0
	2 840 000	(2 840 000)	

Solution 16.7

		Debit	Credit
1 January 20X6			
Bank		1 100 000	
Debentures: financial liability	*W2*		388 310
Debentures: equity	*W3*		711 690
Issue of debentures			
31 December 20X6			
Finance costs (expense)	*W4*	77 662	
Debentures: financial liability	*150 000 – 77 662*	72 338	
Bank	*W1*		150 000
Finance cost and repayment for the period			
31 December 20X7			
Finance costs (expense)	*W4*	63 194	
Debentures: financial liability	*150 000 – 63 194*	86 806	
Bank	*W1*		150 000
Finance cost and repayment for the period			
31 December 20X8			
Finance costs (expense)	*W4*	45 833	
Debentures: financial liability	*150 000 – 63 194*	104 167	
Bank	*W1*		150 000
Finance cost and repayment for the period			
31 December 20X9			
Finance costs (expense)	*W4*	25 000	
Debentures: financial liability	*150 000 – 25 000*	125 000	
Bank	*W1*		150 000
Finance cost and repayment for the period (debentures are now ordinary shares – represented by the 711 690, which was journalised on issue of the debentures)			

Solution 16.7 continued …

W1: Debenture interest paid

= 100 000 x C10 x 15%
= 150 000

W2: Present value of liability (using a 20% discount rate)

Discount factor		Cash payment	Present value of cash payment
0.8333	*(1)*	150 000	125 000
0.6944	*(2)*	150 000	104 167
0.5787	*(3)*	150 000	86 806
0.4823	*(4)*	150 000	72 338
		600 000	388 310

(1) 1 / 1.2 *(2) 0.8333 / 1.2* *(3) 0.6944 / 1.2* *(4) 0.5787 / 1.2*

The PV of the liability can also be calculated as follows:
$= (150\,000 / 1.2) + (150\,000 / 1.2^2) + (150\,000 / 1.2^3) + (150\,000 / 1.2^4)$
= 388 310

W3: Equity portion

Cash received	*100 000 x (C10 + C1)*	1 100 000
Present value of liability	*W2*	(388 310)
Equity (balancing)		711 690

W4: Interest rate table

	Instalment	Interest	Balance
1 Jan X6			388 310
31 Dec X6	(150 000)	77 662	315 972
31 Dec X7	(150 000)	63 195	229 167
31 Dec X8	(150 000)	45 833	125 000
31 Dec X9	(150 000)	25 000	(0)
	600 000	211 690	

Comment:
This question shows the 'residual value' approach in IAS 32, also known as 'splitting the compound'. As the debentures are compulsorily convertible, the interest is the liability portion and the balance is equity relating to conversion.
Note how the liability is reduced by the effective interest rate method until it has a nil balance on conversion date.

Solution 16.8

	Debit	Credit
1 January 20X5		
Bank	5 000 000	
Equity		303 735
Liability		4 696 265
Issue of 1 000 000 C5 preference shares that are redeemable (W1)		
31 December 20X5		
Liability	500 000	
Bank		500 000
Payment of the preference dividend		
Interest expense	563 552	
Liability		563 552
Interest expense for the year on preference dividends (W2)		
31 December 20X6		
Liability	500 000	
Bank		500 000
Payment of the preference dividend		
Interest expense	571 178	
Liability		571 178
Interest expense for the year on preference dividends (W2)		
31 December 20X7		
Liability	500 000	
Bank		500 000
Payment of the preference dividend		
Interest expense	579 719	
Liability		579 719
Interest expense for the year on preference dividends (W2)		
31 December 20X8		
Liability	500 000	
Bank		500 000
Payment of the preference dividend		
Interest expense	589 286	
Liability		589 286
Interest expense for the year on preference dividends (W2)		
Liability	5 000 000	
Equity (80% x 5 000 000)		4 000 000
Bank (20% x 5 000 000)		1 000 000
Conversion and repayment of the preference shares		

Solution 16.8 continued …

Workings:

W1: Present value of future payments
The liability consists of the:

- Annuity of C500 000 each year (dividend: 1 000 000 x C5 x 10%)
- Capital redemption of C5 000 000 at the end of 20X8

W1.1 Present value calculation

Due date	Payments due	PV factor	Present value
1 January 20X5	500 000	0.892857	446 429
31 December 20X5	500 000	0.797194	398 597
31 December 20X6	500 000	0.71178	355 890
31 December 20X7	500 000	0.635518	317 759
31 December 20X8	5 000 000	0.635518	3 177 590
	7 000 000		4 696 265

PV factors:
After 1 year: 1/1.12 = 0.892857
After 2 years: 0.892857/1.12 = 0.797194
After 3 years: 0.797194/1.12 = 0.71178
After 4 years: 0.71178/1.12 = 0.635518

W1.3 Present value calculation – *alternative calculation*

Annuity:
500 000 for 4 years
$= 500\,000/ 1.12^1 + 500\,000/ 1.12^2 + 500\,000/ 1.12^3 + 500\,000/ 1.12^4$
= 1 518 675

Capital:
5 000 000 in four years time
$=5\,000\,000 / 1.12^4$
= 3 177 590

Total liability (present value of future cash outflows):
1 518 675 + 3 177 590 = 4 696 265

Total equity:
5 000 000 – 4 696 265 = 303 735

W2: Effective interest

	Interest @ 12%	Payment @ 10%	Balance
1 January 20X5			4 696 265
31 December 20X5	563 552	(500 000)	4 759 817
31 December 20X6	571 178	(500 000)	4 830 995
31 December 20X7	579 719	(500 000)	4 910 714
31 December 20X8	589 286	(500 000)	5 000 000

Comment:
In terms of IAS 32, if the preference shares are convertible/ redeemable at the option of the HOLDER, they must be treated as a pure liability (i.e. assume redemption will occur).
Note how the preference share liability grows over the 4 years under the effective interest rate method until it reaches full redemption value on redemption date (C5 million).

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Solution 16.9

Introduction

A liability is defined as a present obligation of the entity as a result of past events the settlement of which is expected to result in an outflow of future economic benefits.

Equity is defined as the net interest in assets after deducting liabilities.

The measurement of equity is therefore a balancing exercise.

Compulsorily redeemable preference shares

The accountant has processed the share issue as being totally equity, which is a mistake.

The issuer of the financial instrument shall classify the instrument as a liability or equity in accordance with the substance of the agreement. The critical feature to differentiate between a financial liability and equity is whether the entity has an unconditional right to avoid delivery of cash or other financial assets. If the entity does have an unconditional right to avoid payment, then the instrument is classified as equity (because there is technically no obligation, the financial instrument cannot be classified as a liability).

Through issuing the compulsory redeemable preference shares, the entity has committed itself to the following outflows of economic benefits (cash):

- a capital redemption of C2 000 000 (compulsorily redeemable); and
- an annuity payment consisting of preference dividends of C200 000

and thus the entity does not have an unconditional right to avoid payment.

Such a commitment constitutes a present obligation, the past event being the issue of the shares. The shares, therefore, effectively constitute a 'loan', bearing interest at 10%, and not equity at all.

The correcting journal entry would be:

	Debit	Credit
Preference shares: equity	2 000 000	
Preference shares: liability		2 000 000
Correction of error.		

Solution 16.9 continued …

Compulsorily convertible preference shares

This is a compound financial instrument and must be disclosed as such. The instrument has the following components:

- deferred shares (equity)
- debt instrument (liability)

The accountant is therefore incorrect.

Since the conversion into ordinary shares is compulsory, a portion of the preference shares is equity (deferred equity). The fact that preference dividends must be paid each year, however, constitutes a present obligation where the past event is the issue of the preference shares. The annuity (annual payment of dividends) is a liability (debt instrument).

Payment of dividends (annuity for 5 years):
Annual dividend: 400 000 x 2 x 12% = 96 000
Present value
$= 96\,000 / 1.15^1 + 96\,000 / 1.15^2 + 96\,000 / 1.15^3 + 96\,000 / 1.15^4 + 96\,000 / 1.15^5$
= 346 059

Repayment of capital:
= 0

Total liability = 346 059 + 0 = 346 059

Total equity = 800 000 – 346 059 = 453 941

Correcting journal entry:

	Debit	Credit
Preference shares: Equity	346 059	
Preference shares: Liability		346 059
Correction of error.		

Note:
Only CORRECTING journal entries were required, thus journals relating to interest are ignored.
This question shows the importance of the terms of financial instruments (compulsory redemption or conversion) and the effect thereof on the accounting treatment of the liability.

Solution 16.10

Options: Since these were designated as fair value through profit or loss, they are carried at fair value, with the change in fair value recognised in profit or loss. The carrying amount will be the fair value:
= 100 x 300 = **30 000**

Ordinary shares: Since these were designated as available for sale, they are carried at fair value, with the change in fair value recognised in other comprehensive income (equity). The carrying amount will be the fair value:
= 200 X 200 = **40 000**

Redeemable preference shares: Since these were *not* designated as fair value through profit or loss, they are carried at amortised cost, therefore carrying amount at 31 December 20X5:
= effective interest rate table below = **3 231**

Effective interest rate table	Interest (16.7%)	Cash received (10%)	Balance
1 January 20X5			3000
31 December 20X5	531	(300)	3 231
31 December 20X6	572	(300)	3 503
31 December 20X7	620	(300)	3 823
31 December 20X8	677	(300)	4 200
31 December 20X8		(4 200)	0

Journals:	**Debit**	**Credit**
Options		
1 January 20X5		
Dr: Options in Smiley Limited (Asset)	20 000	
Cr: Bank		20 000
Purchase of Smiley Limited options: 100 x 200		
31 December 20X5		
Dr: Options in Smiley Limited (Asset)	10 000	
Cr: Fair value adjustment on financial asset (P/L)		10 000
Fair value adjustment for Smiley Limited options: 100 x 300 – 20 000		
Ordinary shares		
1 January 20X5		
Dr: Shares in Grin Limited (Asset)	30 000	
Cr: Bank		30 000
Purchase of Grin Limited shares: 200 x 150		
31 December 20X5		
Dr: Shares in Grin Limited (Asset)	10 000	
Cr: Fair value adjustment on available for sale shares (OCI)		10 000
Revaluation of Grin Limited shares to fair value: 200 x 200 – 30 000		
Redeemable preference shares		
1 January 20X5		
Dr: Preference shares in Giggle Limited (Asset)	3 000	
Cr: Bank		3 000
Purchase of Giggle Limited preference shares: 300 x 10		
31 December 20X5		
Dr: Preference shares in Giggle Limited (Asset)	531	
Cr: Interest income (P/L)		531
Effective interest on financial asset (effective interest table above)		
Dr: Bank	300	
Cr: Preference shares in Giggle Limited (Asset)		300
Dividend received from Giggle Limited: 300 x 10 x 10%		

Comment:
This basic question shows the different accounting treatments of financial assets under IAS 39.

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Solution 16.11

Introduction

The accountant has *incorrectly* classified the entire instrument as equity. The dividends declared and share issue expenses have also been *incorrectly* dealt with.

Recognition

The financial instruments should be recognised in accordance with the economic substance of the agreement rather than in accordance with their legal form. The substance of the agreement is that the company has issued:

- compulsory redeemable preference shares; (liability) and
- options to acquire ordinary shares (equity).

The convertible preference shares are thus compound instruments and the compound instrument must be split so that the equity and liability portions are recognised separately.

This split is performed at the date of issue and is achieved by calculating the liability portion and then calculating the equity portion as the balancing figure.

The liability portion

Initial measurement:

The liability portion is measured by discounting the future payments to be made (i.e. dividends and redemption payments) to their present value. The redemption payment is included in the calculation as the shares are convertible at the option of the shareholder. Thus the company does not have an unconditional right to avoid payment the redemption amount.

The discount rate used to discount the future payments is the market rate for purely redeemable fixed rate preference shares with the same issue and redemption date.

Subsequent measurement:

How the liability portion is subsequently measured depends on how it is designated.
The redeemable preference shares can either be

- designated as fair value through profit and loss; or
- carried at amortised cost.

If they are designated at fair value through profit and loss then the instrument is valued at fair value each period and the changes made are recognised in profit or loss.

If amortised cost is used, the liability is measured using the effective interest rate method. An amortisation table is constructed to compute finance costs and to build the liability up from the amount initially recorded (present value) to redemption value. This is the most likely treatment.

The equity portion

Measurement:

The conversion options are measured as the difference between the total proceeds received and the liability amount (i.e. the discounted future dividend and redemption payments).

Solution 16.11 continued …

The options are carried at cost established at initial recognition. No subsequent changes to equity are recorded until conversion date.

Share issue expenses

The share issue expenses should not be expensed. The only exception is if the instrument is designated at fair value through profit or loss, in which case the share issue costs would be expensed. They should be set-off against the carrying amount of the liability and equity portions in proportion to their carrying amounts. This is because financial instruments must be raised at the fair value of the consideration received net of transaction costs. The set-off will result in a change in the present value of the liability and a recalculation of the effective interest rate.

Dividends

No dividends are presented in the statement of changes in equity because, in terms of the:

- equity component: options do not bear dividends;
- liability component: redeemable preference shares bear finance costs, which are reflected in the statement of comprehensive income.

Comment:
This is a very good question dealing with financial liabilities (IAS 39) and 'splitting the compound' as well as the treatment of the transaction costs and dividends.

Solution 16.12

a) Discussion of financial assets

Investments in Mich Ltd's preference shares satisfy the definition of a financial asset as the preference dividends and the redemption amount are receivable in cash in accordance with the formalised terms of the preference share issue documentation (i.e. they represent a contractual right to receive cash).

Financial assets are classified into four categories:

1. Fair value through profit and loss
2. Held to maturity
3. Loans and receivables
4. Available for sale

The category chosen by the investor depends on the investor's intention in relation to the investment

Fair value through Profit and Loss:
If the investor intends to trade with the shares then 'fair value through profit and loss' must be used. Furthermore, even if the shares are not held for sale in the ordinary course of business, the investors can designate the shares as fair value through profit and loss.

If the shares are initially categorised as fair value through profit and loss, the investor may not subsequently reclassify the investment into another category.

If fair value through profit and loss is used the shares are initially recorded at the fair value of the consideration given (excluding transaction costs, which must be expensed). The asset is then adjusted to fair value at the end of each reporting period and any adjustments are recognised in profit and loss.

Dividends received would be recognised in profit or loss.

Held to Maturity:
Financial assets can only be classified as held to maturity if:

- They have fixed or determinable payments (this is satisfied as the shares yield a fixed preference dividend of 10% each period); and
- They have a fixed maturity date (this is satisfied as the shares are compulsory redeemable on the 31 December 20X10)

Furthermore the investor must have:

- The intention to hold to maturity; and
- The ability to hold to maturity

If all the above criteria are met the shares may be classified as held to maturity. In this case the financial assets are accounted for at amortised cost using the effective interest rate method. The assets are initially recorded at the fair value of the consideration given (including transaction costs).

The dividend received is not recognised as dividend income. Instead, the effective interest rate method is used to calculate finance income. The difference between the actual dividend received and the finance income recognised is used to build the initial amount recorded to redemption value.

Solution 16.12 continued …

a) Discussion of financial assets continued …

Loans and receivables
Loans and receivables are not quoted on an active market. If this category is used the financial asset is accounted for using amortised cost in the same manner as described for held to maturity financial assets. This method is not possible as the preference shares are quoted at fair value in an active market.

Available for sale
Those preference shareholders that do not fall into any of the previous three categories should classify their investment in Mich Ltd's preference shares as an available for sale financial asset.

These financial assets are initially recorded at the fair value of the consideration given (including transaction costs). They are subsequently recorded at fair value. Any changes in fair value will then be recognised in other comprehensive income (equity).

Any dividends received will be recognised in profit and loss.

Solution 16.12 continued …

b) Journals for financial assets

i) Fair value through profit and loss		Debit	Credit
1 January 20X6			
Financial asset : Investment in Mich Ltd	*1 000 000 x C10*	10 000 000	
Bank			10 000 000
Purchase of Mich Ltd's preference shares			
31 December 20X6			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Financial asset : Investment in Mich Ltd	*(11 – 10) x 1 000 000*	1 000 000	
Gain on financial asset (P/L)			1 000 000
Fair value adjustment to financial assets			
31 December 20X7			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Financial asset : Investment in Mich Ltd	*(12 - 11) x 1 000 000*	1 000 000	
Gain on financial asset (P/L)			1 000 000
Fair value adjustment to financial assets			
31 December 20X8			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Loss on financial asset (P/L)	*(9 – 12) x 1 000 000*	3 000 000	
Financial asset : Investment in Mich Ltd			3 000 000
Fair value adjustment to financial assets			
31 December 20X9			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Financial asset : Investment in Mich Ltd	*(14 - 9) x 1 000 000*	5 000 000	
Gain on financial asset (P/L)			5 000 000
Fair value adjustment to financial assets			
31 December 20X10			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Financial asset : Investment in Mich Ltd	*(15 – 14) x 1 000 000*	1 000 000	
Gain on financial asset (P/L)			1 000 000
Fair value adjustment to financial assets			
Bank	*1 000 000 x C15*	15 000 000	
Financial asset : Investment in Mich Ltd			15 000 000
Cash received on redemption (compulsory)			

Solution 16.12 continued …

b) Journals for financial assets continued …

ii) Held to maturity (W1)		**Debit**	**Credit**
1 January 20X6			
Financial asset : Investment in Mich Ltd	*1 000 000 x C10*	10 000 000	
Bank			10 000 000
Purchase of Mich Ltd's preference shares			
31 December 20X6			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Financial asset : Investment in Mich Ltd	*W1*	711 239	
Interest revenue	*W1*		1 711 239
Preference dividend received and interest accrual			
31 December 20X7			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Financial asset : Investment in Mich Ltd	*W1*	832 949	
Interest revenue	*W1*		1 832 949
Preference dividend received and interest accrual			
31 December 20X8			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Financial asset : Investment in Mich Ltd	*W1*	975 486	
Interest revenue	*W1*		1 975 486
Preference dividend received and interest accrual			
Impairment expense	*W2*	3 519 674	
Financial asset: accumulated impairment			3 519 674
Impairment of financial asset recoverable amount			

For your information: If the expected future cash flows have not changed then no impairment would be recorded. This would be the case where changes in the market interest rates are the sole cause of the decline in the preference shares value. However, if the fair value changes are solely attributable to Mich Ltd being in a poor financial position and thus future cash flows are expected to reduce, then an impairment of C3 519 674 (W2) would be recorded. In this case the fair value of C9 would represent the less than originally anticipated cash flows discounted at the original effective interest rate.

31 December 20X9			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Financial asset : Investment in Mich Ltd	*W1*	1 142 416	
Interest revenue	*W1*		2 142 416
Preference dividend received and interest accrual			
Financial asset: accumulated impairment	*W3*	3 519 674	
Impairment reversal income			3 519 674
Reversal of impairment of financial asset			

For your information: If no impairment was recorded in the previous reporting period then no reversal can be recorded. However, if an impairment was recorded in the prior period then an impairment reversal would be recorded at an amount of C3 519 674.

31 December 20X10

Bank	*1 000 000 x C10 x 10%*	1 000 000	
Financial asset : Investment in Mich Ltd	*W1*	1 337 910	
Interest revenue	*W1*		2 337 910
Preference dividend received and interest accrual			
Bank	*1 000 000 x C15*	15 000 000	
Financial asset : Investment in Mich Ltd			15 000 000
Cash received on redemption			

Solution 16.12 continued …

b) Journals for financial assets continued …

iii) Available for sale		Debit	Credit
1 January 20X6			
Financial asset : Investment in Mich Ltd	*1 000 000 x C10*	10 000 000	
Bank			10 000 000
Purchase of Mich Ltd's preference shares			
31 December 20X6			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Financial asset : Investment in Mich Ltd	*(11 – 10) x 1 000 000*	1 000 000	
Equity : Fair value adjustment reserve			1 000 000
Fair value adjustment to financial assets			
31 December 20X7			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Financial asset : Investment in Mich Ltd	*(12 – 11) x 1 000 000*	1 000 000	
Equity : Fair value adjustment reserve			1 000 000
Fair value adjustment to financial assets			
31 December 20X8			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Impairment of investment (P/L)	*3 000 000 – 2 000 000*	1 000 000	
Equity : Fair value adjustment reserve	*Balance in equity*	2 000 000	
Financial asset : Investment in Mich Ltd	*(9 – 12) x 1 000 000*		3 000 000
Fair value adjustment to financial assets			

For your information: It has been assumed that there is sufficient objective evidence of impairment. If this was not the case then the entire impairment would have been debited to the fair value adjustment reserve.

31 December 20X9			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Financial asset : Investment in Mich Ltd	*(14 – 9) x 1 000 000*	5 000 000	
Impairment reversed on investment (P/L)	*20X8 impairment*		1 000 000
Equity : Fair value adjustment reserve	*5 000 000 – 1 000 000*		4 000 000
Fair value adjustment to financial assets			

Solution 16.12 continued …

b) Journals for financial assets continued …

iii) Available for sale continued …		**Debit**	**Credit**
31 December 20X10			
Bank	*1 000 000 x C10 x 10%*	1 000 000	
Dividend income			1 000 000
Preference dividend received from Mich Ltd			
Financial asset : Investment in Mich Ltd	*(15 – 14) x 1 000 000*	1 000 000	
Equity : Fair value adjustment reserve			1 000 000
Fair value adjustment to financial assets			
Bank	*1 000 000 x C15*	15 000 000	
Financial asset : Investment in Mich Ltd			15 000 000
Cash received on redemption			
Equity : Fair value adjustment reserve	*(1K + 1K – 2K + 4K + 1K)*	5 000 000	
Gain on financial investment (P/L)			5 000 000
Reclassification adjustment: OCI recognised in profit or loss (a reclassification adjustment)			

Working 1: Effective interest rate table (used for held to maturity financial assets)

	O/ balance	Interest @ 16.11239%	Cash received @ 10% (dividends and capital)	C/ balance
20X6	10 000 000	1 711 239	(1 000 000)	10 711 239
20X7	10 711 239	1 832 949	(1 000 000)	11 544 188
20X8	11 544 188	1 975 486	(1 000 000)	12 519 674
20X9	12 519 674	2 142 416	(1 000 000)	13 662 090
20X10	13 662 090	2 337 910	(1 000 000)	15 000 000
			(15 000 000)	0
	58 437 191	10 000 000	(20 000 000)	

Working 2: Impairment calculation (assuming objective evidence of an impairment exists)

Carrying amount	31/12/20X8	W1	12 519 674
Fair value (recoverable amount)	31/12/20X8	1 000 000 x 9	9 000 000
Impairment loss			3 519 674

Working 3: Impairment loss reversed calculation

Carrying amount	1/1/20X9	W2	9 000 000
Interest income	20X9	W1	2 142 416
Dividend received	20X9		(1 000 000)
Carrying amount	31/12/20X9		10 142 416
Lower of:			13 662 090
Value per EIRT (W1)	31/12/20X9	W1	*13 662 090*
Fair value (recoverable amount)	31/12/20X9	1 000 000 x 14	*14 000 000*
Impairment loss reversed			(3 519 674)

Reversal is limited to the carrying amount under amortised cost (W1).

Solution 16.12 continued …

c) Disclosure: assuming that financial asset is classified as available for sale: no tax

KIM LIMITED
EXTRACTS FROM THE STATEMENT OF COMPREHENSIE INCOME
FOR THE YEAR ENDED 31 DECEMBER 20X10

	20X10	20X9	20X8	20X7	20X6
	C	C	C	C	C
Gain on redemption	5 000	0	0	0	0
Other income	1 000	1 000	1 000	1 000	1 000
Impairment reversal/ (loss)	0	1 000	(1 000)	0	0
Profit for the period	6 000	2 000	0	1 000	1 000
Other comprehensive income					
Available for sale financial assets:					
- Gain on available for sale financial asset	1 000	4 000	(2 000)	1 000	1 000
- Less reclassification adjustment to P/L	(5 000)				
Total comprehensive income	2 000	6 000	(2 000)	2 000	2 000

KIM LIMITED
EXTRACTS FROM THE STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 20X10

	Retained earnings	Fair value adjustment reserve	Total
	C	C	C
Balance: 1/1/20X6	0	0	0
Total comprehensive income	1 000	1 000	2 000
Balance: 31/12/20X6	1 000	1 000	2 000
Total comprehensive income	1 000	1 000	2 000
Balance: 31/12/20X7	2 000	2 000	4 000
Total comprehensive income	0	(2 000)	(2 000)
Balance: 31/12/20X8	2 000	0	2 000
Total comprehensive income	2 000	4 000	6 000
Balance: 31/12/20X9	4 000	4 000	8 000
Total comprehensive income	6 000	(4 000)	2 000
Balance: 31/12/20X10	10 000	0	10 000

Solution 16.12 continued …

d) Disclosure: assuming that financial asset is classified as available for sale: with tax

KIM LIMITED
EXTRACTS FROM THE STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED 31 DECEMBER 20X10

	20X10	20X9	20X8	20X7	20X6
	C	C	C	C	C
Gain on redemption	5 000	0	0	0	0
Other income	1 000	1 000	1 000	1 000	1 000
Impairment reversal/ (loss)	0	1 000	(1 000)	0	0
Profit before tax	6 000	2 000	0	1 000	1 000
Tax	(1 800)	(600)	0	(300)	(300)
Profit for the period	4 200	1 400	0	700	700
Other comprehensive income					
Available for sale financial assets:					
- Gain on available for sale financial asset	700	2 800	(1 400)	700	700
- Less reclassification adjustment to P/L	(3 500)				
Total comprehensive income	1 400	4 200	(1 400)	1 400	1 400

KIM LIMITED
STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 20X5

	Retained earnings	Fair value adjustment reserve	Total
	C	C	C
Balance: 1/1/20X6	0	0	0
Total comprehensive income	700	700	1 400
Balance: 31/12/20X6	700	700	1 400
Total comprehensive income	700	700	1 400
Balance: 31/12/20X7	1 400	1 400	2 800
Total comprehensive income	0	(1 400)	(1 400)
Balance: 31/12/20X8	1 400	0	1 400
Total comprehensive income	1 400	2 800	4 200
Balance: 31/12/20X9	2 800	2 800	5 600
Total comprehensive income	4 200	(2 800)	1 400
Balance: 31/12/20X10	7 000	0	7 000

KIM LIMITED
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 20X5

44. Tax on other comprehensive income	20X10	20X9	20X8	20X7	20X6
	C	C	C	C	C
Fair value adjustment reserve	(2 800)	2 800	(1 400)	700	700
• Gross	(4 000)	4 000	2 000	1 000	1 000
• Tax	1 200	(1 200)	(600)	(300)	(300)

Solution 16.13

a)
Interest income should be calculated using the effective interest rate method. The average exchange rate for the period should be used to translate the interest income.

Any exchange differences on the monetary item (the debenture), should be recognized directly in profit and loss. Fair value adjustments to the debenture are recognized in other comprehensive income (equity).

b)

1 January 20X9		**Debit**	**Credit**
Debenture asset	*At spot rate*	114 950	
Bank (W1)			114 950
Purchase of debenture			

31 December 20X9			
Bank	*At spot rate*	8 190	
Debenture asset	*Balancing*	557	
Interest income (W1)	*At average rate*		8 747
Recognition of interest for 20X9			

31 December 20X9			
Forex loss		3 947	
Debenture asset (W1)			3 947
Recognition of exchange difference in P/L: re-measure balance at spot rate at year-end			

31 December 20X9			
Debenture asset		11 290	
Equity Reserve (OCI)			11 290
Fair value adjustment taken to equity: re-measure balance at fair value at spot rate at year-end			

Working 1:		**€**	**Rate**	**R**
Cost	*10 000 x 95%*	9 500	12.10	114 950
Interest income (effective)	*9 500 x 7.736%*	735	11.90	8 747
Coupon interest	*10 000 x 7%*	(700)	11.70	(8 190)
Exchange difference (bal)	*111 560 – 114 950 – 8 747 – 8 190*			(3 947)
Closing balance		9 535	11.70	111 560
Fair value adjustment (OCI)				11 290
Fair value at 31/12/X9	*Given*	10 500	11.70	122 850

Solution 16.14

i)

Held to maturity		**Debit**	**Credit**
1 March 20X9			
Debenture asset	*100 000 x 98%*	98 000	
Bank			98 000
Purchase of debenture			
30 August 20X9			
Bank	*100 000 x 11% x 6/12*	5 500	
Debenture asset *(bal)*	*Balancing*	527	
Interest income	*98 000 x 12.3% x 6/12*		6 027
Interest income for the 6 month period.			
31 December 20X9			
Debenture asset	*(9 800+527) x 12.3% x 4/12*	4 040	
Interest income			4 040
Interest at year end			

ii)

Available for sale	**Debit**	**Credit**
30 June 20X9		
Investment in shares	23 800	
Bank		23 800
Purchase: (23 x 1000 shares) + 800		
31 December 20X9		
Investment in shares	1 200	
Fair value adjustment reserve (OCI)		1 200
Fair Value Adj: (25x1000) - 23800		

iii)

	Debit	**Credit**
30 June 20X9		
Bank	500 000	
Preference share liability		500 000
The entity does not have the unconditional right to avoid paying cash (share price is not controlled). Therefore it is a liability (IAS32).		
31 December 20X9		
Interest expense (dividend)	25 000	
Shareholders for dividends		25 000
Dividend declared at year end.		

Solution 16.14 continued …

(iv)

Fair value through profit or loss		**Debit**	**Credit**
1 November 20X9			
Margin deposit (asset)		40 000	
Bank			40 000
Margin deposit made on futures			
31 December 20X9			
Bank	*10 x 10 x (2700 - 2500)*	20 000	
Gain on futures (income)			20 000
Futures re-measured at fair value at year-end			

(v)

		Debit	**Credit**
1 December 20X9			
Margin deposit		15 000	
Bank			15 000
Margin deposit on call options			
31 December 20X9			
Bank	*10 x 10 x (9100 - 9000)*	10 000	
Gain on call options (P/L)			10 000
Gain made on exercise of options			
Bank		15 000	
Margin deposit			15 000
Return of deposit on exercise of options.			

Solution 16.15

a) Shares available for sale

		Debit	Credit
1 April 20X8			
Investment: shares	*6 000 + 600*	6 600	
Bank			6 600
Purchase of shares			
31 December 20X8			
FV adjustment reserve (OCI)	*5 900 – 6 600*	700	
Investment: shares			700
FV Adjustment:			
31 December 20X9			
Equity (OCI)	*300 x 18 - 5 900*	500	
Investment: shares			500
FV Adjustment at year-end			
Bank		2 700	
Investment: shares			2 700
(150 shares x C 18)			
Loss on sale of shares (P/L)	*(700 + 500) x 150 / 300*	600	
Equity (OCI)			600
Reclassification adj out of equity			

Solution 16.15 continued …

b)

		Debit	Credit
1 January 20X9			
Investment in government gilts	*Given*	270 000	
Bank			270 000
Purchase of gilts			
30 June 20X9			
Bank	*300 000 x 8% x 6/12*	12 000	
Investment in government gilts	*Balancing*	4 292	
Interest income	*270 000 x 6.034%*		16 292
Interest up to date of sale			
Bank	*Given*	170 000	
Investment in government gilts	*(270 000 + 4292) x 60%*		164 575
Profit on sale *(bal)*			5 425
Sale of gilts			
Investment in government gilts (available for sale)		109 717	
Investment in government gilts (held to maturity)			109 717
IAS 39.51 and .52: Must reclassify as AFS once a significant portion is sold (270 000 + 4292) x 40%			
Investment in government gilts (available for sale)		3 616	
FV adjustment reserve (OCI)	*(170 000 / 60 x 40) - 109 717*		3 616
FV Adjustment:			

31 December 20X9

A further fair value would need to be obtained at this point and a further fair value adjustment would need to be journalized. No such fair value was made available and therefore this journal has not been processed.